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**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application Number: 09/763,723
Filing Date: February 27, 2001
Appellant(s): BIDDISCOMBE, HELEN



Craig A. Phillips
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed July 23, 2007 appealing from the Office action mailed June 5, 2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

| | | |
|---|---|---|
| 6,726,969 | BALAJI et al | 4-2004 |
| 5,332,542 | YAMANAKA et al | 7-1994 |
| 5,078,817 | TAKAGAKI | 1-1992 |

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2-5, 9, 13, 15-17, 21-25, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balaji et al (USPN 6,726,969) in view of Yamanaka et al (USPN 5,332,542).

Regarding claims 2-5, 13 and 30, Balaji et al teach an in-mold labeled, blow molded article (see abstract and col.1, l.30-42). The label is formed from a laminate comprising a core layer or base layer composed of polypropylene homopolymers (col.7, l.16-20) and an outer layer or heat sealable layer (see abstract). The heat sealable polymer is a polyolefin found in the heat seal layer in an amount between 60% and 90% by weight of the heat seal layer (col.4, l.44-47) and the polyolefin is a copolymer of ethylene and propylene or ethylene, propylene, butylene each containing a major amount of propylene (col.4, l.53-60). The polypropylene is a biaxially

oriented voided film (col.8, l.38-44). The film has a shrinkage of less than about 6% in both the machine and transverse directions since the film is biaxially oriented (col.4, l.11-14), which includes shrinkage values greater than 6%. Depending on the amount of voids produced within the voided film, the film would obviously have a density of $0.8g/cm^3$ or more since the density of the polypropylene is about 0.89g/cc before the voids are produced (col.7, l.35-42) and the polypropylene is mixed with fillers having a greater density (col.7, l.45-65). Regarding claims 9 and 16-17, the film comprises at least one intermediate polyolefin layer on the base layer and an outer layer on the intermediate layer, when the core layer is formed of multiple layers of polyolefin (col.6, l.66-67). Regarding claim 15, the base or core layer comprises filler such as a pigment (col.7, l.45-46) and/or a voiding agent (col.9, l.39-44). Regarding claims 21-25, the claims require all of the same limitations as discussed above with regard to claims 2-5, 13, and 15, and requires that the void-creating filler disposed in the polypropylene homopolymers be selected form the group consisting of chalk and organic polymers, which are all taught as void creating fillers in Balaji et al (col.9, l.39-60). Claim 21 also requires that the density of the film is less than $0.8\ g/cm^3$. Depending on the amount of voids produced within the voided film, the film would obviously have a density of $0.8g/cm^3$ or more since the density of the polypropylene is about 0.89g/cc before the voids are produced (col.7, l.35-42) and the air filling the voids is much less than $0.8g/cm^3$. Therefore, if the film were formed with large voids the density of the film would be less than $0.8g/cm^3$. Regarding claims 29 and 31, the claims require all of the same limitations as discussed above with regard to claims 13, 15, and 30, and requires the heat sealable layer be adhered to the container, which is the case in Balaji et al (see abstract).

Balaji et al fail to teach that the blow molded plastic container comprising the in-mold label taught is formed form high-density polyethylene. However, Balaji et al teach that the heat seal layer is formed to be compatible with the container the in-mold label is adhered and gives examples of the material used to form the container, including polypropylene and polyethylene terephthalate (col.5, l.66 – col.6, l.2). Yamanaka et al teach that it is well known in the art to form blow-molded containers having in-mold labels from either polypropylene or high-density polyethylene (col.4, l.43-45). Yamanaka et al teach that the in-mold label used to adhere to the polypropylene or high-density polyethylene containers are formed from the same type of multi-layer laminate structure taught in Balaji et al including a heat-sealable layer (col.4, l.43-52). One of ordinary skill in the art would have recognized that in-mold labels having a voided polypropylene core layer and a heat sealable layer are used in labeling polypropylene containers as well as high-density polyethylene containers, as taught by Yamanaka et al.

Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to select high density polyethylene as the material for forming the blow-molded container comprising the in-mold label taught in Balaji et al, depending on the intended end result of the container, since it is well known that polypropylene and high-density polyethylene containers are interchangeable and that the in-mold label having the structure of Balaji et al is used on both types of containers, as taught by Yamanaka et al.

Claims 8, 12, 20, and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balaji and Yamanaka et al as applied to claims 9, 13 and 21 above, and further in view of Takagaki (USPN 5,078,817).

Balaji and Yamanaka et al teach all that is claimed in claims 9, 13, and 21 as shown above, but fail to teach adding a hydrogenated hydrocarbon resin to the base and/or intermediate layers. However, Takagi teaches that hydrogenated hydrocarbon resins are used in the layers of shrinkage labels, in order to enable the shrinking power of the film to occur uniformly so that deformation of the label does not occur (col.5, l.9-20). One of ordinary skill in the art would have recognized that hydrogenated hydrocarbon resins are added to the layers of labels having shrinkage, in order to uniformly distribute the shrinking power of the film so that deformation of the label does not occur, as taught by Takagi.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to add the hydrogenated hydrocarbon resins of Takagi to the base layer and intermediate layer of Balaji et al in order to prevent deformation of the label, as taught by Takagi.

**(10) Response to Argument**

1. 35 U.S.C. 103 rejection of claims over Balaji in view of Tamanaka

a. References suggest a film having a shrinkage rate of at least 4% in both the machine and transverse directions.

In response to Appellant's argument that Balaji fails to teach that the voided film has a shrinkage rate of at least 4% in both the machine and transverse directions. Balaji specifically teaches that the labels are stretched and oriented in both directions and that the shrinkages of the labels are less than about 6%. It would have been obvious to one having ordinary skill in the art that although Balaji does suggest that the shrinkage values should be kept low, less than about 6%, which is a range that includes some values greater than 6%, is considered a low shrinkage

value for purposes of the invention of Balaji. Therefore, it would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made that the shrinkage values of less than about 6% taught by Balaji would be in regard to both the transverse and machine directions when the label is formed with a biaxial stretch and orientation.

In response to Appellant's argument that Balaji suggests that the biaxial shrinkage has low values, although this is true, Balaji explicitly teaches that low shrinkage includes values up to 6%.

In response to Appellant's argument that Yamanaka fails to teach shrinkage of the label, Yamanaka is not used in the rejection to supplement the shrinkage values of Balaji. Balaji teaches the biaxial shrinkage values as shown above.

b. References suggest a film having a density of less than 0.8 $g/cm^3$.

In response to Appellant's argument that heat seal layer has a density greater than 0.8 $g/cm^3$, the heat seal layer represents a small portion of the complete film and the density would be mostly determined by the core layer that forms the majority portion of the complete film.

In response to Appellant's argument that Balaji does not suggest a density of less than 0.8 $g/cm^3$, Balaji does teach that the polymer forming the voided film has a density greater than 0.8 $g/cm^3$, but depending on the amount of voids formed in the film the density of the film would be less than 0.8 $g/cm^3$ since air filling the voids has a density much less than 0.8 $g/cm^3$. The embodiments of Balaji in which the core layer is not voided or titanium dioxide or calcium carbonate is added are optional additions to the invention and a reference still teaches as long as there is one embodiment teaching the limitations regardless of how many other embodiments do not meet the claimed limitations.

In response to Appellant's argument that Yamanaka fails to supplement Balaji, Yamanaka is not used in the rejection to supplement the density values of Balaji. Balaji suggests the obviousness of the density values as shown above.

c. Balaji suggests a majority of the heat sealable layer is formed from a copolymer as claimed.

In response to Appellant's argument that Balaji teaches that the olefin is only present in an amount up to 50% in the heat sealable layer, it is agreed that in one embodiment the olefin is a minor amount of the heat sealable layer. However, Balaji also teaches in column 4, lines 44-47 that in another embodiment the heat sealable layer contains the polyolefin as the majority of the polymer in an amount between 60% and 90% by weight.

2. 35 U.S.C. 103 rejection over Balaji and Yamanaka in view of Takagaki

a. References suggest a film having a shrinkage rate of at least 4% in both the machine and transverse directions.

In response to Appellant's argument that none of the references teach the biaxial shrinkage rate of at least 4%, see the answer for why Balaji teaches that limitation above.

b. References suggest a film having a density of less than 0.8 $g/cm^3$.

In response to Appellant's argument that none of the references teach the film having a density of less than 0.8 $g/cm^3$, see the answer for why Balaji teaches that limitation above.

c. There is suggestion or motivation to combine Takagaki with Balaji and Yamanaka.

In response to Appellant's argument that that there is no motivation to combine, Takagaki explicitly teaches that hydrogenated hydrocarbon resins are used in the layers of shrinkage

labels, in order to enable the shrinking power of the film to occur uniformly so that deformation of the label does not occur.

d. Takagaki is analogous art.

In response to Appellant's argument that Takagaki is not analogous art, Takagaki, Balaji and Yamanaka are concerned with forming labels that shrink on the outside of containers. Although there would be some differences between labels applied after molding of the container as opposed to during the molding process, it would have been obvious to one having ordinary skill in the art at the time Appellant's invention was made to look to labels in general when making improvements to in mold labels.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Christopher P Bruenjes
Examiner
Art Unit 1772 CPB

CPB
September 17, 2007

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